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GLOBAL COMMAND AND CONTROL SYSTEM –
METEOROLOGICAL AND OCEANOGRAPHIC APPLICATION

Report No. D-2001-157

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Abstract This report is one in a series of audits evaluating the effectiveness and efficiency of DoD meteorological and oceanographic support provided by the Military Departments to DoD and other governmental agencies. The Global Command and Control System is the DoD joint command and control system, designed and implemented to provide accurate, complete, and timely information to warfighters. The Global Command and Control System common operational picture correlates and fuses data from numerous sensors and intelligence sources to provide warfighters the situational awareness needed to be able to act and react decisively. The addition of meteorological and oceanographic data to the Global Command and Control System provides an additional capability necessary for commanders to supervise, plan, and manage operations on the battlefield.		Monitoring Agency Acronym
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Acronyms

CONOPS	Concept of Operations
COP	Common Operational Picture
DISA	Defense Information Systems Agency
GCCS	Global Command and Control System
JMS	Joint Meteorological and Oceanographic Segment
METOC	Meteorological and Oceanographic
TFS	Tactical Forecast System



INSPECTOR GENERAL
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July 11, 2001

MEMORANDUM FOR ASSISTANT SECRETARY OF DEFENSE (COMMAND,
CONTROL, COMMUNICATIONS, AND
INTELLIGENCE)
DIRECTOR, JOINT STAFF
DIRECTOR, DEFENSE INFORMATION SYSTEMS
AGENCY

SUBJECT: Audit Report on Global Command and Control System – Meteorological
and Oceanographic Application (Report No. D-2001-157)

We are providing this audit report for review and comment. This report is one in a series about DoD meteorological and oceanographic support. We considered management comments on a draft of this report in preparing the final report.

DoD Directive 7650.3 requires that all recommendations be resolved promptly. As a result of management comments, we redirected and renumbered draft Recommendation 1. Draft Recommendations 1.a. and 1.b., now Recommendations 2.a. and 2.b., were redirected to the Joint Staff. Draft Recommendation 1.c., renumbered as Recommendation 1., was redirected to the Assistant Secretary of Defense (Command, Control, Communications, and Intelligence). We also renumbered draft Recommendation 2. As Recommendation 3., deleted draft Recommendation 2.a.(3), and renumbered draft Recommendation 2.a.(4) and 2.a.(5) as 3.a.(3) and 3.a.(4), respectively. We request that the Assistant Secretary of Defense (Command, Control, Communications, and Intelligence) provide comments on Recommendation 1. and that the Director, Defense Information Systems Agency, provide comments on Recommendation 3.c.(2) in response to the final report. We request that management provide comments by September 11, 2001.

We appreciate the courtesies extended to the audit staff. For additional information on this report, please contact Ms. Evelyn R. Klemstine at (703) 604-9172 (DSN 664-9172) (eklemstine@dodig.osd.mil) or Mr. Hugh G. Cherry at (703) 604-9614 (DSN 664-9614) (hgcherry@dodig.osd.mil). See Appendix C for the report distribution. The audit team members are listed inside the back cover.

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Office of the Inspector General, DoD

Report No. D-2001-157

Project No. (D2000LG-0102.002)

July 11, 2001

Global Command and Control System – Meteorological and Oceanographic Application

Executive Summary

Introduction. This report is one in a series of audits evaluating the effectiveness and efficiency of DoD meteorological and oceanographic support provided by the Military Departments to DoD and other governmental agencies.

Background. The Global Command and Control System is the DoD joint command and control system, designed and implemented to provide accurate, complete, and timely information to warfighters. The Global Command and Control System common operational picture correlates and fuses data from numerous sensors and intelligence sources to provide warfighters the situational awareness needed to be able to act and react decisively. The addition of meteorological and oceanographic data to the Global Command and Control System provides an additional capability necessary for commanders to supervise, plan, and manage operations on the battlefield.

Objectives. The overall objective of this self-initiated series of audits was to evaluate DoD meteorological and oceanographic services and support to determine whether the Military Departments were providing the most cost-effective and nonduplicative meteorological and oceanographic services and support to DoD and other governmental agencies. Specifically, this audit focused on evaluating the ability of the Global Command and Control System meteorological and oceanographic application to meet warfighting operational requirements. In addition, we reviewed the integration of the meteorological and oceanographic application into the Global Command and Control System common operational picture. We also evaluated the management control program as it related to the audit objective.

Results. The DoD user community did not use the joint meteorological and oceanographic application on the Global Command and Control System. Only 5 of 3,385 Global Command and Control System workstations had downloaded the joint meteorological and oceanographic application. As a result, DoD can demonstrate only limited progress in accomplishing its objective to blend meteorological and oceanographic information into mission planning and execution using the Global Command and Control System. In addition, DoD has expended considerable resources on meetings, working groups, studies, analyses, and field tests in an unsuccessful effort to implement a single joint meteorological and oceanographic application, although we were unable to quantify the costs. See the Finding section for details on the audit results. See Appendix A for a discussion of our review of the management control program.

Summary of Recommendations. We recommend that the Assistant Secretary of Defense (Command, Control, Communications, and Intelligence) designate one

executive agent for the joint meteorological and oceanographic application to ensure that application software adequately satisfies requirements and meets standards before integration testing, to provide the user community with notification of application uses and capabilities, training, assistance with development of technical solutions and analyses, and adequate documentation of system uses and capabilities. In addition, we recommend that the Director, Joint Staff, revalidate the original Global Command and Control System meteorological and oceanographic requirements and develop concrete, measurable, and qualitative requirements that can be accurately tested. Also, we recommend that the Director, Defense Information Systems Agency, perform a new technical and economic analysis of meteorological and oceanographic applications using revised requirements; provide a recommendation on the assignment of an executive agent; evaluate future meteorological and oceanographic applications for overall mission impact, compatibility with hardware in the field, and user friendliness; perform field tests of the joint meteorological and oceanographic application at test locations with environments comparable to normal operational locations; coordinate with the executive agent, to provide functional meteorological and oceanographic applications and capabilities that do not duplicate Service efforts and to provide continuing support for joint meteorological and oceanographic applications; and track and analyze use of the applications to determine general user satisfaction and to identify any major application errors or unmet user requirements.

Management Comments. The Joint Staff requested that draft recommendations addressed to the Chairman, Global Command and Control Review Board, concerning system requirements be redirected to the Joint Staff. The Joint Staff concurred with the recommendations and agreed to revalidate Global Command and Control System meteorological and oceanographic requirements and to develop testable metrics in coordination with the Defense Information Systems Agency. The Joint Staff stated that the draft recommendation concerning the designation of an executive agent for each Global Command and Control System application was not within its authority. The Defense Information Systems Agency concurred with the recommendations, stating that it would perform a technical evaluation of the meteorological and oceanographic applications once the Joint Staff prioritized requirements. Also, the Defense Information Systems Agency stated that it was now following established criteria and recommending an executive agent for all new Global Command and Control System applications. Additionally, the Defense Information Systems Agency states it was working with the Joint Staff and the Joint Meteorological and Oceanographic Functional Working Group to find optimal locations for test sites. A discussion of management comments is in the Finding section and Appendix A, and the complete text is in the Management Comments section of the report.

Audit Response. The Joint Staff comments were fully responsive. We redirected the recommendation concerning the designation of an executive agent to the Assistant Secretary of Defense (Command, Control, Communications, and Intelligence). The Defense Information Systems Agency comments were generally responsive, but did not address the provision of continuing support for the joint meteorological and oceanographic application. As a result of comments provided by the Defense Information Systems Agency, we deleted the draft recommendation to select only one joint meteorological and oceanographic application. We request that the Assistant Secretary of Defense (Command, Control, Communications, and Intelligence) and the Director, Defense Information Systems Agency, provide comments on the final report by September 11, 2001.

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Background

The Global Command and Control System (GCCS) is the DoD command and control system¹ designed and implemented to provide accurate, complete, and timely information to warfighters. GCCS incorporates force planning and readiness assessment applications required by battlefield commanders to effectively plan and execute joint military operations. GCCS supports the National Command Authority² down to the joint task force tactical commander in conducting coordinated operations from dispersed locations by providing a shared view of the battlefield. Commanders in chief of the unified commands and joint task force commanders use GCCS to maintain situational awareness through an integrated, near real-time picture of the battlespace. GCCS also supports interoperability among the Service Components and within individual Services. GCCS provides the capability for viewing a common, real-time picture of the battlespace using a common operational picture (COP). The COP, which represents a specified area of operational responsibility, correlates and fuses data from numerous sensors and intelligence sources to provide warfighters the situational awareness needed to be able to act and react decisively. The unified command should be able to overlay onto the COP the current disposition of hostile, neutral, and friendly forces, as well as other intelligence and meteorological and oceanographic (METOC)³ information necessary for decisionmaking.

Joint Meteorological and Oceanographic Application. After-action reports from Operation Desert Storm identified shortfalls in METOC communications capabilities for joint operations. DoD developed a “Concept of Operations [CONOPS] for the Global Command and Control Systems Meteorology and Oceanography” (METOC CONOPS), August 18, 1997, which outlines the benefits and uses of a joint METOC application for GCCS. The METOC CONOPS states that the purpose for adding a joint METOC application to GCCS was to “blend METOC information into mission planning and execution to characterize the current and future states of the natural environment of the battlespace and its influence on friendly and enemy capabilities.” The METOC CONOPS states that the joint METOC application should be user-friendly and capable of providing tailored real-time meteorological, oceanographic, and space weather information that can be overlaid onto the COP.

¹ Each of the Services also maintains its own command and control system. The purpose of the Service command and control systems is to support Service-specific mission requirements. The focus of this audit is the joint GCCS.

² The term National Command Authority is used to signify constitutional authority to direct the Armed Forces in the execution of military action. The President and Secretary of Defense or persons acting lawfully in their stead can exercise National Command Authority.

³ METOC is an all-encompassing term used to incorporate all facets of the Services’ meteorological, oceanographic, and space environment operations that provide information on the whole range of atmospheric, oceanographic, and space environment phenomena from the bottom of the Earth’s oceans to the space environment.

Responsibilities. The responsibilities for developing, fielding, and operationally supporting any new GCCS requirement are distributed among the Defense Information Systems Agency (DISA), the Joint Staff, the Services, and the unified commands. The GCCS Program Manager is located within DISA.

Defense Information Systems Agency. The Joint Staff designated DISA to serve as the executive agent for the migration of current systems to GCCS. In addition, DISA manages the long-haul communications network that supports GCCS connectivity to each site. The GCCS Program Manager has the following management responsibilities for all joint applications, to include the joint METOC application.

- Perform technical assessments, which include an analysis of the testing of technical solutions and the feasibility of implementing technical solutions, for all new requirements under evaluation in the review process.
- Provide cost-benefit analyses of technical solutions, recommend the best technical solutions for overall GCCS implementation, and provide input to the Global Command and Control Review Board⁴ on prioritization of requirements and associated technical solutions.
- Provide alternative solutions and recommend known applications that may more effectively satisfy requirements under evaluation, be more cost-effective, or be more feasible.

Joint Staff. The Joint Staff provides the chair for the Review Board and coordinates the identification, validation, and tracking of GCCS requirements, including the joint METOC application and the COP. The Joint Staff also coordinates with DISA and the unified commands to resolve technical issues pertaining to the application.

Services. The Services provide training, personnel, and equipment to support the joint METOC application. Service METOC organizations provide the METOC information flow that each unified command requires. In addition, each Service is responsible for assisting the unified commands, joint task forces, and Component commands in refining the use of the joint METOC application at the Component level and below.

Unified Commands. The Senior METOC Officers at the unified commands work with the Joint Staff to determine what information should be displayed by the joint METOC application.

⁴ The Global Command and Control Review Board reviews GCCS requirements and issues. The Review Board either forwards recommendations for action to the General/Flag Officers Advisory Board or implements actions that are consistent with approved development and implementation plans. The Review Board consists of O-6 level representatives from all Joint Staff directorates, the Services, and combatant and functional unified commands, and the chairs of functional and systems integration working groups.

Objectives

This report is one in a series of audits evaluating the effectiveness and efficiency of DoD METOC support provided by the Military Departments to DoD and other governmental agencies. The overall objective of this self-initiated series of audits was to evaluate DoD METOC services and support to determine whether the Military Departments were providing the most cost-effective and nonduplicative METOC services and support to DoD and other governmental agencies. Specifically, this audit focused on evaluating the ability of the joint METOC application on GCCS to meet warfighting operational requirements. In addition, we reviewed the integration of the joint METOC application into the GCCS COP. We also evaluated the management control program as it related to the audit objective. See Appendix A for a discussion of the audit scope and methodology, our review of the management control program and management comments on the review, and prior coverage.

Use of the Joint Meteorological and Oceanographic Application

The DoD user⁵ community did not use the joint METOC application on GCCS. Only 5 of 3,385 GCCS workstations had downloaded the joint METOC application. The application was not used because DoD did not effectively manage the transition of the application to the field. Specifically, the Joint Staff did not revalidate the original METOC requirements. In addition, DISA did not completely and objectively perform the technical and economic analysis and field tests of METOC applications. Also, DISA and the Joint Staff did not effectively integrate the METOC application into GCCS for joint operational use. Furthermore, DoD did not assign an executive agent to facilitate the process of supporting the joint METOC application during its transition to the field. As a result, DoD can demonstrate only limited progress in accomplishing the primary objective of blending METOC information into mission planning and execution using GCCS. In addition, DoD has expended considerable resources on meetings, working groups, studies, analyses, and field tests in an unsuccessful effort to implement a single joint METOC application, although we were unable to quantify the costs.

Guidelines for Selection and Implementation of Applications

Chairman of the Joint Chiefs of Staff Manual 6721.01, “GCCS Functional Requirements Evaluation Procedures” (Joint Staff Manual), March 1997, establishes the processes for developing, selecting, and supporting the best possible known applications to reside on GCCS.

Validated Requirements. The Joint Staff Manual requires that the process of selecting an application start with a validated requirement, rather than starting with a technological solution and then seeking a requirement. Even if the sponsor of the requirement provides a candidate application, a thorough search should take place to ensure there are no other applications that may better meet the requirement in terms of functionality, cost, time to deliver, and supportability. The Joint Staff Manual states that:

... searches for possible candidates need not be exhaustive, but sufficient enough to ensure we do not ... overlook more cost-effective and robust applications. ... Also, to ensure broad and robust GCCS evolution and prevent parallel development of similar applications, searches need to occur across the Department of Defense.

⁵ The target user community for the joint METOC application on GCCS is any organization or individual that uses GCCS to oversee, conduct, and support command and control activities. Senior METOC Officers facilitate the use and interpretation of METOC information for the user community.

The Global Command and Control Review Board will make the final recommendation of the “best fit” application, but the decision should be based on recommendations from the entire user community.

Selection Criteria. The Joint Staff Manual states that all candidate applications must meet Defense Information Infrastructure Common Operating Environment⁶ requirements and be compliant with current standards before being integrated into GCCS. The Joint Staff Manual identifies the following “key criteria in selecting an application” for use on GCCS.

- (a) Implementation factors of cost, technical feasibility, and time.
- (b) Utility to the joint community.
- (c) Perceived endurance of the application (e.g., will this application last a long time or need frequent updates?).
- (d) Flexibility of the application.
- (e) Ease of use (is it intuitive or will it require extensive training?).
- (f) Compatibility with other applications (is it stand-alone, or can outputs be used in other applications?).
- (g) Scaleability.
- (h) Supportability.

Assignment of an Executive Agent. The Joint Staff Manual suggests that an executive agent should be assigned to work the actual process of bringing the agreed-upon capability to the warfighters. Assistant Secretary of Defense (Command, Control, Communications, and Intelligence) “Global Command and Control System (GCCS) Executive Agent (EA) Policy Memorandum,” June 29, 2001, requires the Assistant Secretary of Defense (Command, Control, Communications, and Intelligence) to designate an executive agent for each mission application that is selected for integration into GCCS and not directly managed by DISA. The nominated executive agent, representatives of the Assistant Secretary of Defense (Command, Control, Communications, and Intelligence) and the Joint Staff, and the GCCS Program Manager should formally agree on the specific executive agent responsibilities for integrating the mission application into the GCCS baseline and its subsequent support and enhancement.

⁶ The Defense Information Infrastructure Common Operating Environment provides the architectural principles, guidelines, and methodologies that assist in the development of mission application software by capitalizing on a thorough and cohesive set of infrastructure support services.

Usage of the Joint METOC Application

The DoD user community did not use the joint METOC application on GCCS. In December 2000, at our request, the Joint Staff Support Center⁷ surveyed system administrators at the nine unified commands and at their subordinate commands. The survey revealed that only 5 of the 3,385 GCCS workstations had downloaded the joint METOC application. The following table identifies which unified commands had downloaded the joint METOC application, according to the Joint Staff Support Center user survey conducted for this audit.

Joint METOC User Survey

<u>Unified Command</u>	<u>Total GCCS Workstations</u>	<u>Workstations With METOC¹</u>
U.S. European Command	249	0
U.S. Pacific Command	600	1
U.S. Joint Forces Command	1,447	0
U.S. Southern Command	130	0
U.S. Central Command	88	1
U.S. Space Command	9	0
U.S. Special Operations Command	n/a ²	0
U.S. Transportation Command	815	3
U.S. Strategic Command	47	0
Total	3,385	5

¹GCCS workstations that had downloaded the joint METOC application.

²Not available.

User Comments. METOC officers at each of the nine unified commands, as well as a representative for U.S. Forces Korea, stated that the joint METOC application was not used for operational purposes.

METOC Users. The Joint Staff Support Center user survey indicated that the joint METOC application had been accessed at three unified commands. However, none of the METOC officers at those unified commands had actually used the joint METOC application operationally. The METOC officers at the

⁷ The Joint Staff Support Center supports the information service needs of the Joint Staff. For GCCS, the Support Center assists anyone with installation and use problems, maintains configuration management responsibility over the entire GCCS, and tracks service problem reports and application usage.

U.S. Pacific Command, the U.S. Central Command, and the U.S. Transportation Command stated that the joint METOC application had been downloaded to their workstations exclusively for testing, software development, or other non-operational purposes.

METOC Non-Users. The user community was satisfied with METOC resources other than those available through the joint METOC application. METOC officers from eight unified commands stated that they were content with the METOC support available from the classified and unclassified Internet and from Service-operated regional METOC centers. Two of those METOC officers added that they regularly accessed and used data from other Federal, non-DoD, resources. METOC officers from all but two of the unified commands recognized a need for METOC information on GCCS, but they stated that the joint METOC application did not satisfy their requirements.

METOC officers at the nine unified commands and U.S. Forces Korea provided the following general comments on why they were not using or had not downloaded the joint METOC application.

- The METOC application did not provide the functionality desired (six users).
- The METOC application was not user-friendly (four users).
- They were not trained in the use of the METOC application (three users). However, two of the users stated that they had not taken advantage of a training opportunity.
- Limited GCCS bandwidth or capacity problems made the METOC application less desirable than Service-specific and other Federal or commercial METOC resources available for use within their areas of responsibility (two users).
- Technical problems were encountered in attempting to get the METOC application to work (two users).

METOC Functionality. The user community would prefer to have its requirements met through an application that effectively overlaid METOC data onto the COP. Some users of the joint METOC application experienced problems in using its overlay feature. Furthermore, most potential users have access to METOC data from commercial sources, the Internet (classified and unclassified), and the Services. Consequently, METOC officials at the unified commands access those other available METOC resources but must resort to time consuming “work-arounds” to bring METOC information to their customers.

Transition of the Joint METOC Application to the Field

The DoD user community did not use the joint METOC application on GCCS because DoD did not effectively manage the transition of the application to the field. Specifically, the Joint Staff did not revalidate the original METOC requirements. In addition, DISA did not completely and objectively perform the technical and economic analysis and field tests of METOC applications. Also, DISA and the Joint Staff did not effectively integrate the METOC application into GCCS for joint operational use. Furthermore, DoD did not assign an executive agent to facilitate the process of supporting the joint METOC application during its transition to the field.

Validation of Requirements. The Joint Staff did not revalidate the original METOC requirements. In addition, the Joint Staff had not assembled potential METOC users to review their METOC requirements and determine whether the requirements and the METOC CONOPS were still valid. The Joint Staff held an April 2001 meeting with representatives of the METOC community to discuss the original joint METOC requirements. However, as of June 2001, the Joint Staff had not revalidated and prioritized METOC requirements for GCCS.

In 1997, the Joint Staff established a Joint METOC Ad Hoc Working Group (Working Group) composed of representatives from the Joint Staff and the unified commands. The Working Group developed and approved the METOC CONOPS and identified 70 requirements (48 were considered essential) that should be satisfied by a joint METOC application.

Two former members of the Working Group suggested that it would be beneficial to revalidate the joint METOC requirements. Both considered the original requirements and the METOC CONOPS to be valid based on the GCCS vision in 1997. However, both made the point that information technology had improved exponentially and that GCCS had matured with those improvements. For example, there were no METOC forecast capabilities on the classified Internet in 1997. Now, the classified Internet provides most of the weather forecast data used at the unified commands and joint task forces. In addition, the capabilities of the COP also matured significantly. In 1997, few of the participants were aware of what the COP was, much less what the COP would become.

Assessment Process. DISA did not completely and objectively perform the technical and economic analysis and field tests of METOC applications. Field tests did not include testing for critical METOC functionality, interoperability, and overall mission impact. The assessment process in reality selected not one, but two METOC applications. The DoD release of a joint METOC application, which was actually two applications, was based on incomplete testing and misleading test results.

Technical and Economic Analysis. From August 1996 through April 1997, DISA performed a technical and economic analysis on two different Service METOC systems and a system developed by the U.S. Special Operations Command. The purpose of the technical and economic analysis was

to select an application that would provide the required METOC functionality that had been missing from GCCS, meet the requirements of the Defense Information Infrastructure Common Operating Environment, and provide the lowest life-cycle costs.⁸

A DISA-led team analyzed each of the three candidate systems to determine which would provide the quickest, easiest, and least costly alternative for adding METOC capability to GCCS. The team concluded that the Navy Joint METOC Segment (JMS) was the most cost-effective candidate system. Generally, the analysis was fair and complete; however, the team based one conclusion on the assumption that there was complete file format compatibility between the JMS and the COP. However, due to a software error, the version of JMS used on GCCS was unable to overlay METOC data onto the COP. Although the COP and the Defense Information Infrastructure Common Operating Environment were originally Navy programs, some of the file formats on Navy and joint applications were different and, therefore, prevented direct data transfers.

DISA officials stated that the Air Force protested the selection of the Navy's system because JMS did not produce the quality of graphics that the Air Force desired. Therefore, the Air Force candidate system, the Tactical Forecast System (TFS), also proceeded to field testing.

Field Tests. Evaluation teams, composed of Joint Interoperability Test Command evaluators and GCCS users and system administrators at the test locations, completed field tests on JMS and TFS in July and September 1999, respectively.

Joint METOC Segment. An evaluation team field tested JMS at the U.S. Atlantic Command (subsequently redesignated as the U.S. Joint Forces Command). The evaluation team concluded that the JMS was "operationally effective and operationally suitable for fielding and operations." The test results indicated that 88 percent of all JMS functionality tested had qualified as fully successful. However, the conclusions of the evaluation team were based on tests completed in an environment that did not match the capabilities of a normal operational site. For example, the assessment report states that:

- a. The SECRET Internet Protocol Router Network (SIPRNet) was not available during the test.
- b. The METOC Imagery Segment (MIS) did not install properly.
- c. There were no live data feeds available for the test. All data came from pre-recorded files.

⁸ The life-cycle costs are the marginal "recurring costs of corrective software maintenance, the non-recurring cost to develop Joint training programs and documentation, and marginal program management costs." The technical and economic analysis covered the specific costs of putting those candidate applications on GCCS. The analysis did not, however, cover the non-recurring costs of developing each application's basic functionality because those costs would have been incurred by the Services whether or not the applications were put on GCCS.

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- d. The history file (the Oceanographic Atmospheric Master Library (OAML) database) is classified, and was not made available for the test.

Tactical Forecast System. An evaluation team field tested TFS at the U.S. Transportation Command. The evaluation team recommended fielding of the TFS even though the field tests “revealed inconsistencies and functional problems that are considerable shortcomings.” The test results indicated that 81 percent of all TFS functionality tested had qualified as fully successful. The team accepted TFS, noting in its assessment report the following shortcomings.

- TFS lacks a well thought-out training plan and approach. The number of users who will be able to use TFS is small, and there are no plans for formal training of new users.
- TFS is not interoperable with the GCCS COP, a requirement stated in the METOC CONOPS.

Users and system administrators at the National Military Command Center determined that TFS was adequate for initial release and user familiarization. Consequently, the Joint Staff user representative requested release of TFS “in its current state to give users an early look and to acquire feedback for future enhancements.”

Assessment Results. The assessment process in reality selected not one, but two METOC applications. The DoD release of a joint METOC application, which was actually two applications, was based on incomplete testing and misleading test results. The Joint Staff selected inadequate test locations and provided test criteria that did not sufficiently describe what needed to be measured. The DISA evaluation teams prepared assessment reports that included misleading success rates.

Test Locations. The Joint Staff assigned test locations that could not adequately support the testing required. For example, the evaluation team was unable to test the capability of JMS to accurately overlay METOC data onto the COP because the test environment did not provide access to live METOC data feeds or to a properly installed METOC imagery segment.

Test Criteria. The Joint Staff provided test criteria that did not supply observable, qualitative descriptions of what needed to be measured. For example, the Joint Interoperability Test Command was tasked to test system capability to “ingest binary grid data from various systems.” However, the test criteria did not identify the specific data sources to be used or indicate the extent of “stress testing” required to provide a useful conclusion on the quality of system performance. As a result, the evaluation teams did not perform several critical tests on functionality, interoperability, and overall mission impact.

Assessment Reports. The assessment reports suggest a more favorable success rate than appears warranted. The evaluation teams used the number of functions tested as their base rather than the total number of functions

required. Those favorable success rates are emphasized in the reports. However, using total functionality as the base, rather than tested functionality, the fully successful rates dropped from 88 percent to 80 percent for JMS and from 81 percent to 68 percent for TFS.

Neither of the applications released to the field adequately fulfilled the requirements of the METOC CONOPS. See Appendix B for a description of JMS and TFS capabilities.

Integration of METOC. DISA and the Joint Staff did not effectively integrate the METOC application into GCCS for joint operational use. DISA and the Joint Staff released a joint METOC application in the last quarter of FY 1999 but did not evaluate user surveys, identify and correct technical deficiencies, or ensure that the target user community was trained in the use or capabilities of the application.

User Surveys. The Joint Staff, with the assistance of DISA, performs user surveys on the utility of GCCS mission applications released to the field. A user survey performed by DISA in October and November 1999 directed users to provide comments regarding any GCCS application. DISA received one response related to the joint METOC application. The respondent stated that the users were not getting sufficient METOC training. At the time of that survey, DISA and the Joint Staff discounted the response because the METOC application was new to GCCS and had not been extensively used. In other contacts between the Joint Staff and the field, there was no evidence that METOC application use was discussed.

Monitoring System Capabilities. After releasing the joint METOC application to the field, DISA did not ensure that the joint METOC application worked as designed or identify and correct deficiencies in a timely manner. For example, when DISA released the JMS application, it could not overlay select METOC data onto the COP. For more than 18 months, DISA made JMS available and did not notify potential users that the application could not overlay select METOC data onto the COP. DISA then asked the Navy to correct the problem. As of June 2001, the Navy was acting to provide a solution.

User Training. METOC officers at the unified commands had received no training on the joint METOC application, and at least three specifically stated that they needed training. Two other potential users stated that they had not taken advantage of a training opportunity. The Air Force provides a "single service training manager" for GCCS. The Navy also provides training courses on GCCS at three separate training sites. None of those training opportunities specifically focuses on the joint METOC application; however, one Navy course briefly covers the subject in its general overview.

Executive Agent. DoD did not assign an executive agent to facilitate the process of supporting the joint METOC application during its transition to the field. DoD allowed the Navy and the Air Force to each act independently as a lead Service. The Services focused on providing improved overall functionality for their own METOC applications. In order to facilitate the process of making joint applications provided by DoD more effective and usable, the U.S.

Transportation Command hired a contractor to maintain GCCS, integrate products, and fix system problems. The costs directly attributable to the joint METOC application were not quantifiable because the contractor's scope of work included numerous miscellaneous functions related to GCCS at the U.S. Transportation Command.

The Assistant Secretary of Defense (Command, Control, Communications, and Intelligence) should designate an executive agent for the joint METOC application to help mitigate problems the DoD user community has with the application. An executive agent with specific responsibility to focus on the joint METOC application could help:

- ensure the application software is sufficiently mature, meets acceptable standards, and can successfully be integrated into GCCS;
- ensure the target user community is trained and has appropriate system documentation and user guidance on the application and its capabilities;
- assist potential users to make more efficient use of the application;
- provide assistance with technical problems; and
- monitor and analyze help desk and trouble calls to determine whether the application is operating as designed.

METOC Information on GCCS

DoD can demonstrate only limited progress in achieving the primary objective for developing a joint METOC application: "blending METOC information into mission planning and execution" using GCCS. DoD has been seeking joint METOC solutions since the issue was identified as critical in after-action reports from Operation Desert Storm. Although considerable effort has been expended to develop a joint METOC application, as of February 2001, there was no viable solution for a joint METOC application and users did not have the joint functionality required.

As early as December 1995, the Joint Staff started looking for candidate applications to add METOC capability to GCCS. The Joint Staff designed the assessment process with the goal to select and implement one joint application that would satisfy validated user requirements. The overall goal for the assessment process was to reduce, and eventually eliminate, duplication of effort and Service-unique systems that do not allow joint functionality. However, since the Joint Staff and unified commands developed the joint METOC requirements, the Services have continued to separately fund the improvement of their own METOC applications.

In addition, DoD has expended considerable resources since December 1995 on meetings, working groups, studies, analyses, and field tests in an unsuccessful effort to implement a single joint METOC application, although we were unable to quantify the costs. As of February 2001, DoD had made two joint METOC applications available to the target user community. However, neither of the applications adequately fulfilled the requirements of the METOC CONOPS and neither had the capability to efficiently and effectively overlay METOC data onto the COP.

Conclusion

DoD poorly managed the process of fielding a joint METOC application. The original requirements, as stated in the METOC CONOPS, may now be outdated, and DoD assessed and approved candidate applications that did not provide the complete functionality required. Although tests were performed, the tests were incomplete. DoD developed and validated requirements but did not ensure that the applications, once released, met those requirements. Furthermore, DoD did not provide users with adequate technical support or training. As a result, there are two applications, two lead Services, and no operational users.

Management Comments on the Report and Audit Response

Air Force Comments. The Air Force made two major points that are not directly addressed in the Recommendation section of this report. First, the Air Force stated that the report cited criteria as references that had been superseded. Second, the Air Force stated that the report inaccurately referred to the “executive agent” when the term “product agent” should have been used.

Audit Response. For purposes of clarity and perspective in presenting the issues in this report, we elected to reference criteria in the scope section (Appendix A) of the draft report that had been superseded and to use the term executive agent rather than the recently introduced “product agent.”

Criteria. The superseded GCCS criteria cited by the Air Force were in effect at the time both joint METOC applications – JMS and TFS – were released to the field. However, to satisfy the concerns of the Air Force, the scope section of this report has been adjusted to include the original and amended versions of the Chairman of the Joint Chiefs of Staff instructions.

Executive Agent. We elected to continue to use the term executive agent throughout this report because there is no definitive explanation of the role of a “product agent.” Chairman of the Joint Chiefs of Staff Instruction 6722.01A, “Global Command and Control System Configuration Management Policy,” July 2000, uses “executive agent” and “product agent” interchangeably. In addition, the Assistant Secretary of Defense (Command, Control, Communications, and Intelligence) has drafted a policy memorandum

“Global Command and Control System (GCCS) Executive Agent (EA) Policy Memorandum,” requiring the Assistant Secretary of Defense (Command, Control, Communications, and Intelligence) to designate an executive agent for each mission application that is selected for integration into GCCS and not directly managed by DISA. According to the draft policy memorandum, the nominated executive agent, representatives of the Assistant Secretary of Defense (Command, Control, Communications, and Intelligence) and the Joint Staff, and the GCCS Program Manager should formally agree on the specific executive agent responsibilities for integrating the mission application into the GCCS baseline and its subsequent support and enhancement. The draft policy memorandum is expected to be signed in July 2001.

Recommendations, Management Comments, and Audit Response

Redirected, Renumbered, and Deleted Recommendations. As a result of management comments, we redirected draft Recommendations 1.a. and 1.b. from the Chairman, Global Command and Control Review Board, to the Director, Joint Staff, and renumbered them as Recommendations 2.a. and 2.b., respectively. The Joint Staff had responded to the draft recommendations directed to the Chairman, Global Command and Control Review Board, stating that the recommendations are a “collective responsibility” of the Joint Staff. The Joint Staff also stated that the draft recommendation concerning the designation of an executive agent was not within the authority of the Joint Staff. Therefore, we redirected draft Recommendation 1.c. to the Assistant Secretary of Defense (Command, Control, Communications, and Intelligence) and renumbered it as Recommendation 1. We renumbered draft Recommendation 2. as Recommendation 3., deleted draft Recommendation 2.a.(3), and renumbered draft Recommendations 2.a.(4) and 2.a.(5) as Recommendations 3.a.(3) and 3.a.(4), respectively.

We request that the Assistant Secretary of Defense (Command, Control, Communications, and Intelligence) provide comments on the redirected recommendation in response to the final report.

1. We recommend that the Assistant Secretary of Defense (Command, Control, Communications, and Intelligence) designate one executive agent for the joint meteorological and oceanographic application with responsibilities for:

a. Ensuring that potential mission application software adequately satisfies requirements and meets acceptable standards before it goes through Global Command and Control System integration testing.

b. Providing the Global Command and Control System joint meteorological and oceanographic application user community with:

(1) Notification of the uses and capabilities of the meteorological and oceanographic application.

(2) Training that facilitates efficient use of the application.

(3) Assistance with development of technical solutions, technical analyses, and on-line performance testing.

(4) Adequate documentation of system uses and capabilities.

2. We recommend that the Director, Joint Staff:

a. Revalidate the original Global Command and Control System meteorological and oceanographic requirements.

Joint Staff Comments. The Joint Staff concurred, stating that it was addressing the revalidation of requirements for a joint METOC application.

Air Force Comments. Although not required to comment, the Air Force stated that the Meteorological and Oceanographic Ad Hoc Working Group should revalidate the requirements and the Global Command and Control Review Board should approve the validated requirements.

b. Develop concrete, measurable, and qualitative requirements that can be accurately tested.

Joint Staff Comments. The Joint Staff concurred, stating that the development of testable metrics will require close coordination with DISA.

Air Force Comments. The Air Force stated that the use of “qualitative” connotes a subjective requirement; therefore, the use of “qualitative” should be replaced with “quantitative” throughout the report.

Audit Response. We do not agree with the Air Force preference for using the term “quantitative” in place of “qualitative.” We believe that the testing process lacks adequate qualitative test criteria. DISA performed a total of 123 tests on the two candidate applications (90 for the JMS and 33 for TFS) and approved the release of both applications based on success rates of 88 percent and 80 percent respectively. Both applications failed critical test criteria and not all critical tests that were completed provided meaningful results.

3. We recommend that the Director, Defense Information Systems Agency:

a. Perform a new technical and economic analysis of meteorological and oceanographic applications using the following revised requirements:

(1) Identify all mission-critical functional requirements and ensure that all meteorological and oceanographic applications satisfy the mission-critical requirements.

(2) Perform a thorough technical review based on concrete, measurable, and qualitative criteria.

(3) Provide a recommendation on the assignment of an executive agent for the joint meteorological and oceanographic application.

(4) Evaluate future meteorological and oceanographic applications for overall mission impact, compatibility with hardware in the field, and user friendliness.

DISA Comments. DISA concurred, stating that it would perform a new technical and economic analysis upon receipt of prioritized functional requirements from the Joint Staff. DISA stated that once the functional requirements were identified and reaffirmed, it would assist with further technical analysis to determine the status of METOC applications. DISA also stated that it will recommend an executive agent for all new GCCS applications. Further mission impact was primarily a Joint Staff responsibility, but DISA would participate in evaluating mission impact, hardware compatibility and user friendliness through the GCCS Assessment Working-Level Integrated Product Team. In regard to a draft recommendation concerning the identification of a single METOC application, DISA stated that METOC requirements fell into diverse functional areas, and that fielding a single application to provide all required functionality is not always the most technically or economically sound solution.

Audit Response. The DISA comments were responsive, although DISA will need to coordinate with the Joint Staff to ensure timely receipt of prioritized functional requirements. As a result of the DISA comments, we deleted the recommendation to identify one application to add METOC functionality to GCCS.

b. Perform field tests of the joint meteorological and oceanographic application that is selected in the technical and economic analysis at test locations with environments comparable to a normal operational location.

DISA Comments. DISA concurred, stating that it will work closely with the Joint Staff and the Joint METOC Functional Working Group to identify test sites best suited for the performance of operational assessments. The GCCS Program Management Office at DISA drafted a charter to formulate a GCCS Test and Evaluating Working-Level Integrated Product Team, which will bring together the GCCS developer and user-representative and test communities for test-related coordination, discussion, and planning.

c. Coordinate with the Global Command and Control Meteorological and Oceanographic Executive Agent, when designated, to provide:

(1) Functional meteorological and oceanographic applications and capabilities for the Global Command and Control System that do not duplicate Service efforts.

DISA Comments. DISA concurred, stating that the DISA GCCS Program Management Office, the Joint Staff, and the Functional Working Groups must coordinate efforts to ensure that capabilities do not duplicate Service efforts. As part of the GCCS assessment process, the Joint Staff and the Functional Working Groups provide the initial screening of solutions against requirements and rank those solutions in terms of operational suitability and effectiveness.

Air Force Comments. The Air Force stated that it believes that DoD policy is to keep development to a minimum if a capability already exists within Service applications.

(2) Continuing support for joint meteorological and oceanographic applications.

Audit Response. DISA did not respond to this recommendation; therefore, we request that the Director, DISA, provide comments in response to the final report.

d. Track and analyze use of the application to determine the:

(1) General satisfaction of the users with the application.

DISA Comments. DISA concurred, stating that it will coordinate with the Joint Staff on the GCCS user satisfaction surveys to ensure that user comments and feedback are properly analyzed and tracked.

Air Force Comments. The Air Force stated that user satisfaction surveys should not be the sole or primary indicator of general satisfaction of the users.

(2) Existence of major application errors or unmet user requirements.

DISA Comments. DISA concurred, stating that the Joint Staff should update the GCCS Requirements Database by documenting any unmet or new GCCS METOC requirements and prioritizing those requirements for DISA. DISA also stated that it would rely on customers to report major application errors to the joint operations center as Global System Problem Reports. GCCS engineers will then provide fixes, starting with the highest priority.

Air Force Comments. The Air Force stated that an evaluation of whether or not an application meets user requirements should be done during program development as part of risk assessment and management. The evaluation of application errors should be done during program development through test and evaluation.

Appendix A. Audit Process

Scope

We reviewed DoD guidance for the addition of METOC functionality to GCCS. We reviewed Chairman of the Joint Chiefs of Staff Instruction 6721.01, “Global Command and Control Management Structure,” February 1995; Chairman of the Joint Chiefs of Staff Instruction 6721.01A, “Global Command and Control Management Structure,” November 2000; Chairman of the Joint Chiefs of Staff Instruction 6722.01, “Global Command and Control System Configuration Management Policy,” July 1997; Chairman of the Joint Chiefs of Staff Instruction 6722.01A “Global Command and Control System Configuration Management Policy,” July 2000; the METOC CONOPS; “GCCS User Concept of Operations,” December 1995; Chairman of the Joint Chiefs of Staff Manual 6721.01, “GCCS Functional Requirements Evaluation Procedures,” March 1997; Chairman of the Joint Chiefs of Staff Instruction 3170.01A, “Requirements Generation System,” August 1999; and Chairman of the Joint Chiefs of Staff Instruction 3170.01B, “Requirements Generation System,” April 2001. The documentation reviewed covered the period from February 1995 through June 2001. We evaluated whether the Joint Staff was coordinating the efforts of the Military Departments to ensure that accurate, timely, and usable METOC information was being provided by the joint METOC application. We also reviewed the processes used to generate, develop, test, and field the applications intended to satisfy the joint METOC requirements. In addition, we contacted the unified commands to determine whether they were using the joint METOC applications.

DoD-Wide Corporate Level Government Performance and Results Act Coverage. In response to the Government Performance and Results Act, the Secretary of Defense annually establishes DoD-wide corporate level goals, subordinate performance goals, and performance measures. This report pertains to achievement of the following goal and subordinate performance goals:

FY 2001 DoD Corporate Level Goal 2: Prepare now for an uncertain future by pursuing a focused modernization effort that maintains U.S. qualitative superiority in key warfighting capabilities. Transform the force by exploiting the revolution in Military Affairs, and reengineer the Department to achieve a 21st century infrastructure. **(01-DoD-2)**

FY 2001 Subordinate Performance Goal 2.3: Streamline the DoD infrastructure by redesigning the Department’s support structure and pursuing business practice reforms. **(01-DoD-2.3)**

FY 2001 Subordinate Performance Goal 2.5: Improve DoD financial and information management. **(01-DoD-2.5)**

High-Risk Area. The General Accounting Office has identified several high-risk areas in DoD. This report provides coverage of the DoD Systems Modernization high-risk area.

Methodology

During the audit, we evaluated methods DoD used to create and manage the joint METOC applications. Specifically, we identified and analyzed policies and guidance used by the Joint Staff, DISA, and the Military Departments to identify, document, and validate requirements for METOC information. We also:

- conducted interviews with officials from the Office of the Joint Chiefs of Staff, each unified command, DISA, the Air Force Electronic Systems Command, the Space and Naval Warfare Systems Command, and the U.S. Transportation Command;
- reviewed the training requirements and processes used by the Joint Staff and the Military Departments for applications on GCCS;
- reviewed the development and testing of GCCS and the METOC applications of that system; and
- reviewed user surveys and solicited comments from potential users to determine the amount and type of use the joint METOC application received.

Audit Type, Dates, and Standards. We performed this program audit from November 2000 through June 2001 in accordance with auditing standards issued by the Comptroller General of the United States, as implemented by the Inspector General, DoD. Accordingly, we included tests of management controls considered necessary. We did not use computer-processed data to perform this audit. Although we did our work in accordance with generally accepted Government auditing standards, we were unable to obtain an opinion on our system of quality control. The most recent external quality control review was withdrawn on March 15, 2001, and we will undergo a new review.

Contacts During the Audit. We visited or contacted individuals and organizations within DoD. Further details are available on request.

Management Control Program Review

DoD Directive 5010.38, "Management Control (MC) Program," August 26, 1996, and DoD Instruction 5010.40, "Management Control (MC) Program Procedures," August 28, 1996, require DoD organizations to implement a comprehensive system of management controls that provides reasonable assurance that programs are operating as intended and to evaluate the adequacy of the controls.

Scope of the Review of the Management Control Program. We limited our review to the adequacy of management controls at DISA related to the joint METOC applications. Specifically, we reviewed management controls over requirements and testing of GCCS METOC applications. We also reviewed management's self-evaluation applicable to those controls.

Adequacy of Management Controls. We identified material management control weaknesses within DISA as defined by DoD Instruction 5010.40. Management controls in DISA for GCCS were not adequately employed to ensure that GCCS METOC applications were effectively implemented. Recommendation 3., if implemented, will correct the identified weaknesses and could result in functional METOC information being made available to the user community through GCCS. A copy of the report will be provided to the senior official responsible for management controls in DISA.

Adequacy of Management's Self-Evaluation. DISA officials identified GCCS as an assessable unit but did not perform an evaluation because management scheduled the tests of management controls for FY 2001 through FY 2002 in the management control plan.

Management Comments and Audit Response on Management Controls

DISA Comments. DISA stated that its management controls allowed appropriate oversight to meet joint command and control requirements. DISA stated its management structure allowed for direct representation from the user community to ensure functional results were available.

Audit Response. DISA management controls were not adequately employed to ensure that GCCS METOC applications were effectively implemented. Specifically, DISA did not employ the management controls that it had established. Also, DISA did not ensure that its products and services were deployed and demonstrated to be suitable and effective in an operational environment.

Prior Coverage

No prior coverage has been conducted on METOC functionality on GCCS during the last 5 years. The following final reports have been issued in this series of reviews. Unclassified Inspector General, DoD, reports can be accessed over the Internet at <http://www.dodig.osd.mil/audit/reports>.

Inspector General, DoD

Inspector General, DoD, Report No. D-2001-152, "Meteorological and Oceanographic Support in the European Theater," June 28, 2001

Inspector General, DoD, Report No. D-2001-151, "Meteorological and Oceanographic Support in the Pacific Theater," June 28, 2001

Inspector General, DoD, Report No. D-2001-133, "Deliberate Planning for Meteorological and Oceanographic Operations (U)," June 1, 2001

Inspector General, DoD, Report No. D-2001-018 "Management and Oversight of the DoD Weather Program," December 14, 2000

Appendix B. Joint Meteorological and Oceanographic Applications

As of June 2001, the target user community could access two joint METOC applications: the JMS and TFS.

Joint METOC Segment

In July 1999, the Joint Staff approved for release a joint METOC application that consisted of six Navy METOC segments, selected from numerous other Navy METOC applications. Those Navy segments, described below, are collectively known as the JMS.

- The METOC Communications segment provides the capability to reach out to a web server and download binary grid data that can then be decoded and displayed on other segments.
- The Joint METOC Plot segment provides the capability to retrieve, draw, and disseminate METOC grid or other data onto a chart. The user can create overlays of information onto maps.
- The JMS Parsers segment decodes messages, but not graphical interface components. It receives and places the messages in their appropriate locations.
- The METOC Brief segment creates briefing slides and charts from METOC information.
- The METOC Data Servers Lite segment includes a decoder. It can also manage METOC observation data. It has no graphical interface components.
- The METOC Imagery segment contains applications used for animating, managing, and viewing METOC Image Format files.

Tactical Forecast System

In May 2000, the Joint Staff approved for release a second joint METOC application. The Air Force application, TFS, provides communications, data management, and base weather station capabilities to all command, control, communications, and computer customers. Also released was the TFS Web Application, which allows TFS data to be put onto the World Wide Web.

Appendix C. Report Distribution

Office of the Secretary of Defense

Under Secretary of Defense (Comptroller)
Deputy Chief Financial Officer
Deputy Comptroller (Program/Budget)
Assistant Secretary of Defense (Command, Control, Communications, and Intelligence)

Joint Staff

Director, Joint Staff
Chairman, Global Command and Control Review Board
Chairman, Global Command and Control System Working Group
Chairman, Global Command and Control System Common Operational Picture
Working Group
Chairman, Global Command and Control System Meteorological and Oceanographic
Working Group

Department of the Army

Auditor General, Department of the Army

Department of the Navy

Naval Inspector General
Auditor General, Department of the Navy
Commander, Space and Naval Warfare Systems Command
Oceanographer of the Navy
Commander, Naval Meteorology and Oceanography Command

Department of the Air Force

Assistant Secretary of the Air Force (Financial Management and Comptroller)
Auditor General, Department of the Air Force
Director of Weather
Commander, Air Force Weather Agency
Commander, Combat Air Force Command and Control System Program Office

Unified Commands

Commander in Chief, U.S. European Command
Commander in Chief, U.S. Pacific Command
 Commander, U.S. Forces Korea
Commander in Chief, U.S. Joint Forces Command
Commander in Chief, U.S. Southern Command
Commander in Chief, U.S. Central Command
Commander in Chief, U.S. Space Command
Commander in Chief, U.S. Special Operations Command
Commander in Chief, U.S. Transportation Command
Commander in Chief, U.S. Strategic Command

Other Defense Organization

Director, Defense Information Systems Agency

Non-Defense Federal Organization

Office of Management and Budget

Congressional Committees and Subcommittees, Chairman and Ranking Minority Member

Senate Committee on Appropriations
Senate Subcommittee on Defense, Committee on Appropriations
Senate Committee on Armed Services
Senate Committee on Governmental Affairs
House Committee on Appropriations
House Subcommittee on Defense, Committee on Appropriations
House Committee on Armed Services
House Committee on Government Reform
House Subcommittee on National Security, Veterans Affairs, and International Relations
Relations Committee on Government Reform
House Subcommittee on Government Efficiency, Financial Management, and Intergovernmental Relations
House Subcommittee on Technology and Procurement Policy, Committee on Government Reform

Joint Staff Comments

Final Report
Reference



THE JOINT STAFF
WASHINGTON, DC

Reply ZIP Code:
20318-

DJSM-0471-01
21 June 2001

MEMORANDUM FOR THE INSPECTOR GENERAL, DEPARTMENT OF DEFENSE

Subject: Audit Report on the Global Command and Control System (GCCS)--
Meteorological and Oceanographic (METOC) Application

1. Thank you for the opportunity to comment on your draft report¹ concerning the GCCS METOC application. We offer the following responses to the recommendations:

a. Change paragraph 1 "Chairman, Global Command and Control Review Board" to read "Joint Staff."

REASON: Accuracy. Recommendations are a collective responsibility of the Joint Staff.

b. Concur in Recommendation 1a that a review of the GCCS METOC requirements is an appropriate Joint Staff action that we are addressing now.

c. Concur with comment on Recommendation 1b. The development of testable metrics will require close coordination with the Defense Information Systems Agency (DISA). As such, this recommendation should be a Joint Staff and DISA responsibility.

d. Nonconcur in Recommendation 1c. Assignment of a DoD executive agent is not within the authority of the Joint Staff and is unnecessary, because CJCSI 6721.01A provides sufficient and most appropriate vehicles for DoD components to fulfill their Title 10 responsibilities.

2. We look forward to assisting you in the future. My point of contact for this matter is Col Burnette, J-38/ROD, 703-695-0581

GARRY R. TREXLER
Major General, USAF
Vice Director, Joint Staff

Reference

1. DOD/IG memorandum, 20 April 2001, Audit Report on GCCS METOC Application (Project No. D2000LG-0102.002)

Redirected,
renumbered
as Recommendation
2.

Renumbered
as Recommendations
2.a. and 2.b.

Redirected,
renumbered
as Recommendation
1.

Defense Information Systems Agency Comments



IN REPLY
REFER TO: Inspector General (IG)

DEFENSE INFORMATION SYSTEMS AGENCY
701 S. COURTHOUSE ROAD
ARLINGTON, VIRGINIA 22204-2199

19 June 2001

MEMORANDUM FOR INSPECTOR GENERAL, DEPARTMENT OF DEFENSE

SUBJECT: Response to DoD IG Audit Report, Audit Report on "Global Command and Control System – Meteorological and Oceanographic Application," Project # D2000LG-0102.002

1. The attached enclosure provides comments from the Defense Information Systems Agency on the above referenced DoD IG Draft Report.
2. If you have any questions, please call Teddie Lou Steiner, Audit Liaison, at (703) 607-6316 or Jason Bakker, Assistant Audit Liaison, at (703) 607-6607.

For the Director:


RICHARD T. RACE
Inspector General

Enclosure a/s

Quality Information for a Strong Defense

DODIG REPORT
DODIG CODE #D2000LG-0102.002

"AUDIT REPORT ON GLOBAL COMMAND AND CONTROL SYSTEM -
METEOROLOGICAL AND OCEANOGRAPHIC APPLICATION

DEFENSE INFORMATION SYSTEMS AGENCY, GLOBAL COMMAND AND CONTROL
SYSTEMS COMMENTS TO THE RECOMMENDATIONS:

We recommend that the Director, Defense Information Systems
Agency:

RECOMMENDATION 2a: Perform a new technical and economic
analysis of meteorological and oceanographic applications using
the following revised requirements:

(1) Identify all mission-critical functional requirements
and ensure that all meteorological and oceanographic
applications satisfy the mission-critical requirements.

(2) Perform a thorough technical review based on concrete,
measurable, and qualitative criteria.

(3) Identify one application that can add the required
meteorological and oceanographic functionality to the Global
Command and Control System.

(4) Provide a recommendation to the Global Command and
Control Review Board on the assignment of an executive agent for
the joint meteorological and oceanographic application.

(5) Evaluate future meteorological and oceanographic
applications for overall mission impact, compatibility with
hardware in the field, and user friendliness.

DISA Concur w/Comments: DISA agrees to perform a new technical
and economic analysis upon receipt of the prioritized functional
requirements from the Joint Staff. Identification of functional
requirements is a Joint Staff responsibility as outlined in
CJCSI 3170.01B, Requirements Generation System, and related
documents for GCCS Management. GCCS requirements are provided
to DISA via the Joint Staff's Requirements Identification
Document (RID). RIDs are normally submitted every 2 - 3 years.
Out-of-cycle or ad hoc requirements may be submitted at anytime
and are evaluated for cost, schedule, and performance impact and
technical feasibility.

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mendation
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3.a.(3)

Renumbered
as Recom-
mendation
3.a.(4)

Economic analyses are conducted for the components of each evolutionary phase within the structure of that phase's Evolutionary Phase Implementation Plan. Joint Staff did not prioritize METOC as a candidate solution for Phase IV; therefore an economic analysis is not applicable.

In general, once the functional requirements are identified/reaffirmed, DISA will assist with further technical analysis to determine the status of METOC applications. The assumption that a single application will meet all Joint METOC requirements is unfounded. Rather, most METOC requirements fall into diverse functional areas, such as predictive or dissemination requirements. Fielding a single application may be a goal, but is not always the most technically or economically sound strategy. DISA, through the existing GCCS Evolutionary Acquisition Strategy promulgated IAW DOD 5000 series instructions and regulations, recommends executive agents (EA) to OSD for all new applications to be integrated into GCCS. The GCC Review board is an integral part of that process. METOC applications will follow the existing EA nomination process. The GCCS PM convenes and Chairs an Assessment Working-level Integrated Product Team (AWIPT), with representation from the Joint Staff (for the user community and GCC Review Board) and evaluates all new candidate applications suggested for future integration into GCCS. Future METOC applications will automatically be included in that process. Mission impact assessment is within the purview of the Joint Staff and will be provided by representation on the AWIPT. Issues such as hardware compatibility are factored into the AWIPT process by engineering technical input based on developer information submitted in response to AWIPT data calls. The GCCS PM also evaluates the associated integration risk for the application concerned.

RECOMMENDATION 2b: Perform field tests of the joint meteorological and oceanographic application that is selected in the technical and economic analysis at test locations with environments comparable to a normal operation location.

DISA Concur w/Comments: The DISA D23 GCCS Program Management Office (PMO) will work closely with the Joint Staff and the Joint METOC Functional Working Group to identify test sites that are best suited for the performance of operational assessments. The PMO continues to evaluate the processes and methodology for testing. The PMO in coordination with JITC has drafted a charter to formulate a GCCS Test and Evaluating Working-level Integrated Product Team (T&E WIPT). The T&E WIPT will bring the

Renumbered
as Recommendation
3.b.

GCCS developer, User-representative and test communities together for test-related coordination, discussion, and planning. The T&E WIPT will meet in July 01.

RECOMMENDATION 2c: Coordinate with the Global Command and Control Meteorological and Oceanographic Executive Agent, when designated, to provide:

(1) **Functional meteorological and oceanographic applications and capabilities for the Global Command and Control System that do not duplicate Service efforts.**

(2) **Continuing support for joint meteorological and oceanographic applications.**

DISA Concur w/Comments: The DISA GCCS PMO, Joint Staff, and Functional Working Groups must coordinate efforts to ensure that capabilities do not duplicate Service efforts. The GCCS PMO will conduct technical assessments of all identified applications and capabilities against the Requirements Identification Document to ensure that Joint GCCS capabilities do not duplicate Service programs. As part of the GCCS assessment process, the Joint Staff and Functional Working Groups provide the initial screening of solutions against requirements and rank those solutions in terms of operational suitability and effectiveness. As required, the AWIPT will update the Requirements Traceability Matrix to reflect Service efforts as solutions to requirements.

RECOMMENDATION 2d: Track and analyze use of the application to determine the:

(1) **General satisfaction of the users with the application.**

(2) **Existence of major application errors or unmet user requirements.**

DISA Concur w/Comments: The DISA D23 GCCS PMO will coordinate with the Joint Staff and the DISA D7 office on GCCS User Satisfaction Surveys to ensure that user comments and feedback are properly analyzed and tracked. The Joint Staff, J33CSOD Directorate, conducts annual User Satisfaction Surveys in coordination DISA D7 and D2. The User Satisfaction Surveys solicits user input and feedback on all components of the GCCS.

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as Recommendation
3.c.

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as Recommendation
3.d.

Final Report
Reference

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3.

Customers should report major application errors to the Joint Operation Support Center as Global System Problem Reports (GSPRS). The GCCS Engineers provide fixes to the GSPRS starting with the highest priority.

The Joint Staff should update the GCCS Requirements Database (GRID) by documenting any unmet or new Global Command and Control Meteorological and Oceanographic requirements and prioritize those requirements in the RID for the assessment process.

All of the above comments under Recommendation 2 show that management controls for GCCS have the appropriate oversight to identify and meet Joint Command and Control requirements. The management structure allows for direct representation from the user community to ensure functional results are made available. Functional Working Group provides the initial screening before an application arrives into GCCS, and the user community is directly involved in field testing prior to releasing applications.

Department of the Air Force Comments

Final Report
Reference



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE
WASHINGTON DC

18 JUN 2001

MEMORANDUM FOR ASSISTANT INSPECTOR GENERAL FOR AUDITING
OFFICE OF THE INSPECTOR GENERAL
DEPARTMENT OF DEFENSE

FROM: HQ USAF/XO
1630 Air Force Pentagon
Washington, DC 20330-1630

SUBJECT: Draft DoD IG Report, Project No. D2000LG-0102.002, Global Command and Control System -- Meteorological and Oceanographic Application, 20 April 2001

The Air Force has reviewed the subject draft audit report. The Air Force concurs with Recommendations 2a(1), 2a(5), 2b, and 2c(2); concurs with comment on Recommendations 1, 2a(2), 2a(4), and 2d; and non-concurs with Recommendations 2a(3) and 2c(1). Additional specific comments are attached.

The Air Force non-concurs with the recommendation to identify a single METOC application for GCCS. We found no mandate for a single application and suggest a change to allow one or more interoperable modules if they provide the best capability to satisfy joint user requirements. The objective of GCCS METOC applications is to provide the spectrum of users a seamless presentation of the same weather information available to any Component Command on their Service METOC systems and a single application may not meet this objective. Recommendation 2c(1) is not clear with respect to duplication of Service efforts and the Air Force non-concurs until further clarification. We view reuse of appropriate Service functionality (e.g., software modules) in GCCS as a more efficient solution than developing all new capabilities unique to GCCS.

We noted that the audit team referred to three obsolete CJCS instructions relating to the Requirements Generation System and GCCS management, two of which were superceded several months before the audit report. The auditor's use of the obsolete term "executive agent" instead of the new "product agent" created confusion. However, it is clear from the context within the report that the recommendation is for the designation of a product agent rather than an executive agent, which would require OSD appointment.

We continue to stand ready to work with the IG to mediate our differences on the final report on Management and Oversight published in December 2000.

This memo is a coordinated Air Force and Army position.

ROBERT H. FOGLESONG, Lt Gen, USAF
Deputy Chief of Staff
Air and Space Operations

*

Deleted

Renumbered
as Recommendation
3.c.(1)

* See text of Air Force comments for the renumbering of recommendations.

Attachments:

1. AF Position on Recommendations
2. Specific Comments

cc:

ASD(C3I)	OAIG-AFU	Dep Asst SecNav (Env & Safety)
DAMI	CNO(N096)	SAF/IGI SAF/SX
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Global Command and Control System Meteorological and Oceanographic Application Air Force Position on Recommendations

Recommendation 1.a. We recommend that the Chairman, Global Command and Control Review Board revalidate the original Global Command and Control System meteorological and oceanographic requirements.

AF Position: Concur with comment.

Rationale: It is not a function of the GCC Review Board to revalidate requirements. According to CJCSM 6721.01, Global Command and Control System (GCCS) Functional Requirements Evaluation Procedures, 15 March 1997, the GCC Review board approves validated requirements recommended by the working groups. The same manual does allow for the GCC Review Board to return submissions to the appropriate Joint Staff directorate if they determine the requirements to be invalid or if they need further clarification but the working group should perform the requirements revalidation. This recommendation should be changed to read "We recommend that the Chairman, Global Command and Control Review Board return the previously approved Global Command and Control System meteorological and oceanographic requirements to the GCCS METOC Ad Hoc Working Group for revalidation."

Recommendation 1.b. We recommend that the Chairman, Global Command and Control Review Board develop concrete, measurable, and qualitative requirements that can be accurately tested.

AF Position: Concur with comment.

Rationale: Given the context of the recommendation, we believe "qualitative" should be changed to "quantitative" because "qualitative" connotes a subjective requirement rather than a concrete, measurable, objective requirement. Also, as explained for Recommendation 1a above, it is the working group who would carry out this task. This recommendation should be changed to read "We recommend that the Chairman, Global Command and Control Review Board direct the GCCS METOC Ad Hoc Working Group to develop concrete, measurable, and quantitative requirements that can be accurately tested during the revalidation process of the currently approved requirements, and for any future new requirements."

Recommendation 1.c. We recommend that the Chairman, Global Command and Control Review Board designate one executive agent for the joint meteorological and oceanographic application with responsibilities for:

- (1) Ensuring that potential mission application software adequately satisfies requirements and meets acceptable standards before it goes through Global Command and Control System integration testing.

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as Recommendation
2.a.

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2.b.

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as Recommendation
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(2) Providing the Global Command and Control System joint meteorological and oceanographic application user community with:

- (a) Notification of the uses and capabilities of the meteorological and oceanographic application.
- (b) Training that facilitates efficient use of the application.
- (c) Assistance with development of technical solutions, technical analyses, and on-line performance testing.
- (d) Adequate documentation of system uses and capabilities.

AF Position: Concur with comment.

Rationale: CJCSI 6721.01A Enclosure A paragraph 4b(2)(b), 27 November 2000, indicates that OSD has the appointment authority for an executive agent, not the GCC Review Board. In addition, CJCSI 6722.01A, 1 July 2000, page GL-12, provides the definition for “Product Agent” and states that product agents were formerly known as executive agents. We believe the auditors intended to recommend appointment of a product agent because, based on their list of reviewed publications stated in the first paragraph of Appendix A of the draft report, they were referring to obsolete versions of these publications. The obsolete versions used the “executive agent” terminology. We have no objection to designation of a product agent specifically for GCCS METOC applications. We suggest replacing “executive agent” with “product agent” in the recommendation.

Recommendation 2.a. We recommend that the Director of the Defense Information Systems Agency perform a new technical and economic analysis of meteorological and oceanographic applications using the following revised requirements:

(1) Identify all mission-critical functional requirements and ensure that all meteorological and oceanographic applications satisfy the mission-critical requirements.

AF Position: Concur.

(2) Perform a thorough technical review based on concrete, measurable, and qualitative criteria.

AF Position: Concur with comment.

Rationale: Given the context of the recommendation, we believe “qualitative” should be changed to “quantitative” because “qualitative” connotes a subjective analysis rather than concrete, measurable, objective analysis.

(3) Identify one application that can add the required meteorological and oceanographic functionality to the Global Command and Control System.

AF Position: Non-concur.

Rationale: The requirement for data and/or information is the relevant issue and not the number of applications. CJCSM 6721.01A Enclosure A paragraph 2.k. says that a GCCS application can be made up of modules that work together, but it does not call for a single application that comes from one source. A better solution would be one or more interoperable modules that provide the best capability to satisfy joint user requirements. This approach delivers maximum flexibility and modular implementation without the artificially imposed requirement for a single application to be used across the GCCS. The recommendation should be changed to read “We recommend the GCCS METOC Ad Hoc Working Group select the best capability (capabilities) to satisfy joint user requirements.”

(4) Provide a recommendation to the Global Command and Control Review Board on the assignment of an executive agent for the joint meteorological and oceanographic application.

AF Position: Concur with comment.

Rationale: As described in the comments on Recommendation 1.c. above, the GCC Review Board does not have the authority to appoint an executive agent. Because the auditors used obsolete publications, we believe the recommendation should refer to a “product agent” instead of an “executive agent.” In this case, we concur with a recommendation for the GCC Review Board to consider a DISA recommendation in the Board’s selection of a product agent.

(5) Evaluate future meteorological and oceanographic applications for overall mission impact, compatibility with hardware in the field, and user friendliness.

AF Position: Concur.

Recommendation 2.b. We recommend that the Director of the Defense Information Systems Agency perform field tests of the joint meteorological and oceanographic application that is selected in the technical and economic analysis at test locations with environments comparable to a normal operational location.

AF Position: Concur.

Recommendation 2.c. We recommend that the Director of the Defense Information Systems Agency coordinate with the Global Command and Control Meteorological and Oceanographic Executive Agent, when designated, to provide:

AF Position: Because the auditors used obsolete publications as stated in the AF Position for Recommendation 1.c., we believe the recommendation should refer to a “product agent” instead of an “executive agent.”

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as Recommendation
3.a.(3)

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as Recommendation
1.

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as Recommendation
3.a.(4)

Renumbered
as Recommendation
3.b.

Renumbered
as Recommendation
3.c.

Redirected
and
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as Recommendation
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(1) Functional meteorological and oceanographic applications and capabilities for the Global Command and Control System that do not duplicate Service efforts.

AF Position: Non-concur, unless clarified.

Comment: If the recommendation means GCCS METOC applications and capabilities must be completely unique ("do not duplicate Service efforts"), then the AF non-concurs. Software reuse and use of non-developmental items wherever possible is DoD policy. If the recommendation means keeping development to a minimum if the capability already exists within Service applications, then the AF concurs with comment. Some Service applications may not meet the GCCS standards or meet all requirements and may not be suitable for use on GCCS. Additionally, there may be some overlap of functionality between Service and GCCS applications--it may not be possible to totally eliminate duplication of Service efforts.

(2) Continuing support for joint meteorological and oceanographic applications.

AF Position: Concur.

Recommendation 2.d. We recommend that the Director of the Defense Information Systems Agency track and analyze use of the application to determine the:

(1) General satisfaction of the users with the application.

AF Position: Concur with comment.

Rationale: While the AF believes the use of the METOC application should be tracked and analyzed, it should not be used as the sole or primary indicator of general satisfaction of the users. Human Systems Integration is a comprehensive management and technical strategy that should be initiated early in the acquisition process to ensure that human performance and the burden the design imposes on manpower, personnel, and training are considered throughout the system design and development processes.

(2) Existence of major application errors or unmet user requirements.

AF Position: Concur with comment.

Rationale: While the AF believes the use of the METOC application should be tracked and analyzed, it should not be used as the sole or primary indicator of application errors or unmet user requirements. The evaluation of whether or not an application meets user requirements should be done during program development as part of risk assessment and management (DoDD 5000.1, paragraph 4.1.4.). The evaluation of application errors should be done during program development through test and evaluation.

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Global Command and Control System Meteorological and Oceanographic Application Audit Report Analysis

This analysis addresses each section of the draft report in order.

Introduction

Page i, first paragraph. Comment on the statement, "This report is one in a series of audits evaluating the effectiveness and efficiency of DoD meteorological and oceanographic support provided by the Military Departments to DoD and other governmental agencies."

Comment: According to DoDD 7600.2, Audit Policies, 2 Feb 1991, paragraph 6.11.2, "The audited activity normally should be provided with a draft audit report and given an opportunity to present its views on the audit findings, recommendations, and potential monetary benefits. The views of the audited activity shall be made in writing. The final audit report shall present the audited activity's position fairly, together with the audit organization's position on any nonconcurrences or nonresponsive comments." This report should have been addressed to the Services in addition to the Joint Staff and DISA since it involves support provided by the Services. The auditors should have explicitly asked the Services for their positions on all recommendations in this and all other audit reports.

Results

Page i, fourth paragraph. Comment on the paragraph "The DoD user community did not use the joint meteorological and oceanographic application on the Global Command and Control System. Only 5 of 3,385 Global Command and Control System workstations had ever accessed the joint meteorological and oceanographic application. As a result, DoD can demonstrate only limited progress in accomplishing its objective to blend meteorological and oceanographic information into mission planning and execution using the Global Command and Control System. In addition, DoD has expended considerable resources on meetings, working groups, studies, analyses, and field tests in an unsuccessful effort to implement a single joint meteorological and oceanographic application, although we were unable to quantify the costs. See the Finding section for details on the audit results. See Appendix A for a discussion of our review of the management control program."

Comment: In 1997, DoD made a decision to implement two meteorology and oceanography (METOC) applications on the Global Command and Control System (GCCS) (Tactical Forecasting System (TFS) and Joint METOC Segment (JMS)). Additionally, there are other methods available to integrate METOC data with systems on GCCS--currently, Air Force Weather (AFW) is working with the Defense Information Systems Agency (DISA) to include weather information on the Common Operational Picture (COP) and is also developing the Joint Weather Impacts System (JWIS) (in collaboration with the Navy) that will provide meteorological data to systems on GCCS.

Summary of Recommendations.

Page i, fifth paragraph (continued on next page). Comment on the following statements: "We recommend that the Chairman, Global Command and Control Review Board, revalidate Global Command and Control System meteorological and oceanographic requirements and designate an

Atch 2 (1 of 5)

executive agent for the Global Command and Control System meteorological and oceanographic application.”

Comment: The Chairman of the GCC Review Board does not revalidate requirements. According to CJCSM 6721.01, Global Command and Control System (GCCS) Functional Requirements Evaluation Procedures, Enclosure C, paragraph 3, the validation of requirements is the responsibility of the working group if the requirement is submitted by the working group. In this case it would be the GCCS METOC Ad Hoc Working Group. CJCSM 6721.01 also says the GCC Review Board approves, by signature, the validated requirements recommended for approval by working groups. However, DoDD 7600.2, Audit Policies, 2 Feb 1991, paragraph 6.11.2 states “Recommendations shall be made to the lowest level that has the capability to take corrective action.” This would be the GCCS METOC Ad Hoc Working Group.

CJCSM 6721.01 says the working group (GCCS METOC Ad Hoc Working Group in this case) and the GCC Review Board may appoint an executive agent or lead element. However, the newer CJCSI 6722.01A and CJCSI 6721.01A change the terminology from “executive agent” to “product agent” while highlighting that an executive agent requires OSD appointment. In the context within the audit report, it is the product agent being recommended and all references to executive agent throughout the report should be changed to product agent.

We suggest changing the sentence to read “We recommend that the Chairman, Global Command and Control Review Board, directs the GCCS METOC Ad Hoc Working Group to revalidate Global Command and Control System meteorological and oceanographic requirements and designate a product agent for the Global Command and Control System meteorological and oceanographic application.”

Joint Meteorological and Oceanographic Application

Page 1, second paragraph, last sentence. Comments on the sentence “The METOC CONOPS requires the joint METOC application to be user-friendly and capable of providing tailored real-time meteorological, oceanographic, and space weather information that can be overlaid onto the COP.”

Comment: The METOC CONOPS said “The METOC capability on GCCS will provide a user-friendly and tailored...” It does not state formal requirement to be user-friendly but does say “Allow interpretation of METOC products with minimal assistance from METOC personnel.” Additionally, it says “that METOC products be overlaid on the COP as it matures.” The COP is not the only application on GCCS that requires access to METOC data. The GCCS METOC Ad Hoc Working Group CONOPS further states “The METOC application on GCCS must be able to display and tailor products and allow access by other GCCS applications to METOC data.”

Use of the Joint Meteorological and Oceanographic Application

Page 4, first paragraph, fourth sentence. Comment on the statement “Specifically, the Joint Staff did not revalidate the original METOC requirements.”

Comment: The report implies a regulatory requirement for revalidation when none exists. CJCSM 6721.01, Global Command and Control System (GCCS) Functional Requirements Evaluation Procedures, 15 March 1997, does not require the revalidation of requirements after they have been approved. Additionally, CJCSI 3170.01B, Requirements Generation System, 15 April 2001, does not require revalidation of requirements after they have been approved.

Validated Requirements

Page 5, first paragraph. Comment on the statement “The Global Command and Control Review Board will make the final recommendation of the “best fit” application, but the decision should be based on recommendations from the entire user community.”

Comment: This is incorrect. The stakeholders make the final recommendation to the GCC Review Board.

Assignment of an Executive Agent or Lead Element

Page 5, third paragraph. Comment on the statement “The Joint Staff Manual further suggests that an executive agent or lead element should be assigned to work the actual process of bringing the agreed-upon capability to the warfighters.”

Comment: Inaccurate. As described previously, “executive agent” should be changed to “product agent.” Also, the Joint Staff Manual says “Throughout the requirements process, but as early as validation, working groups may assign an executive agent or lead element to perform some or all of the functions of assessment, testing, and development, as necessary.”

Usage of the Joint METOC Application

Page 7, second paragraph. Comment on the paragraph “METOC Functionality. The user community would prefer to have its requirements met through an application that effectively overlaid METOC data onto the COP. Some users of the joint METOC application experienced problems in using its overlay feature. Furthermore, most potential users have access to METOC data from commercial sources, the Internet (classified and unclassified), and the Services. Consequently, METOC officials at the unified commands access those other available METOC resources but must resort to time consuming “work-arounds” to bring METOC information to their customers.”

Comment: This paragraph is a generalization of METOC users and their requirements. GCCS COP users are not the only users of METOC information and not all requirements will be satisfied simply by overlaying data on the COP.

Transition of the Joint METOC Application to the Field

Page 7, third paragraph, second sentence. Comment on the sentence “Specifically, the Joint Staff did not revalidate the original METOC requirements.”

Comment: The report implies a requirement for Joint Staff revalidation. According to CJCSM 6721.01, GCCS users send new joint requirements to the Joint Staff through their appropriate CINC, Service, or agency office of primary responsibility (OPR), or GCCS working group. According to CJCSI 6723.01CH1, 8e, the Combatant Commands identify joint combat support requirements. The GCCS METOC Ad Hoc Working Group did identify requirements and these were validated by the GCC Review Board. No additional requirements were received from CINC, Service, or agency representatives. There is no requirement to periodically revalidate the requirements.

Page 7, third paragraph, last sentence. Comment on the statement “Furthermore, DoD did not assign an executive agent or lead element to facilitate the process of supporting the joint METOC application during its transition to the field.

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Revised

Page 8

Page 8,
revised

Comment: As previously described, change “executive agent” to “product agent” to reflect current terminology. Also, this is a true statement but implies DoD had to assign an agent or lead element, which they did not.

Validation of Requirements

Page 7, last paragraph. Comment on the sentences “The Joint Staff did not revalidate the original METOC requirements. In addition, the Joint Staff had not assembled potential METOC users to review their METOC requirements and determine whether the requirements and the METOC CONOPS were still valid.”

Comment: While these statements are true, they imply there is a requirement for the Joint Staff to revalidate the requirements and this is not the case. The auditors’ questioning of the validity of requirements approved in 1997 is inconsistent with the first DoD IG audit report on Oversight and Management that made references to documents from 1986 (MJCS 154-86) without questioning their validity. The Joint Staff did assemble CINC METOC users in April 2001 to discuss the requirements.

Page 8, second paragraph. Comment on the paragraph “Two former members of the Working Group suggested that it would be beneficial to revalidate the joint METOC requirements. Both considered the original requirements and the METOC CONOPS to be valid based on the GCCS vision in 1997. However, both made the point that information technology had improved exponentially and that GCCS had matured with those improvements. For example, there were no METOC forecast capabilities on the classified Internet in 1997. Now, the classified Internet provides most of the weather forecast data used at the unified commands and joint task forces. In addition, the capabilities of the COP also matured significantly. In 1997, few of the participants were aware of what the COP was, much less what the COP would become.”

Comment: CJCSM 6721.01 provides detailed instructions on developing, assessing, validating and approving GCCS user requirements, and managing them using the GCCS Requirements Data Base (Grid). Despite the opinions of two former members of the working group, no one had come forward with new or different requirements (including perhaps the two former members, who may now be serving at a GCCS-using CINC, Service, or agency).

Conclusion

Page 12, last paragraph, last sentence. Replace the sentence with “As a result, there is one application and no operational users.”

Rationale: Accuracy. DISA removed TFS from GCCS.

Appendix A. Audit Process

Scope

Page 15, first paragraph. Comment: Three of the six publications referenced were outdated and have been superseded.

Specifically:

- Chairman of the Joint Chiefs of Staff Instruction 6721.01, “Global Command and Control Management Structure,” February 1995 has been canceled and superseded by Chairman of

the Joint Chiefs of Staff Instruction 6721.01A, "Global Command and Control Management Structure," 27 November 2000

- Chairman of the Joint Chiefs of Staff Instruction 6722.01, "Global Command and Control System Configuration Management Policy," July 1997 has been canceled and superseded by Chairman of the Joint Chiefs of Staff Instruction 6722.01A, "Global Command and Control System Configuration Management Policy," 1 July 2000.
- Chairman of the Joint Chiefs of Staff Instruction 3170.01A, "Requirements Generation System," August 1999 has been canceled and superseded by Chairman of the Joint Chiefs of Staff Instruction 3170.01B, "Requirements Generation System," 15 April 2001.

Throughout Document

"Qualitative" versus "quantitative." We found several instances throughout the report using the term "qualitative" when the context of the "concrete" and "measurable" appeared to indicate "quantitative" was the more accurate term. We suggest the auditors review each instance for proper terminology.

"Executive agent" versus "product agent." We suggest the auditors review each instance of the use of "executive agent" to ensure the proper distinction between it and the "product agent" terminology specified in CJCSI 6722.01A (July 2000). Unfortunately, CJCSM 6721.01 has not been updated to reflect this change, contributing to the confusion in the report.

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Audit Team Members

The Readiness and Logistics Support Directorate, Office of the Assistant Inspector General for Auditing, DoD, prepared this report. Personnel of the Office of the Inspector General, DoD, who contributed to this report are listed below.

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